



National Transportation Safety Board

Memorandum

From: Michael Huhn
Date: March 3, 2011
Subject: Summary of Examination, N64RJ Magnetos (WPR11LA113)

The subject components were examined at the Teledyne Continental Motors (TCM) facility in Mobile, AL on March 2, 2011. The components were photo-documented. The following is a summary of the findings from that examination:

Airframe/Engine: N64RJ/Reportedly from right engine; make/model not provided

Attendees: Andrew Swick (TCM Air Safety), John Kent (TCM Air Safety), Tim Davis (TCM Engineering/Magnetos), Greg Eastburn (TCM Analytical Mechanic/Inspector), Michael Huhn (NTSB)

Right Magneto

TYPE: S4LN-21

PN 10-51360-37

SN 1000453

Magneto internal timing appeared essentially accurate - red mark on distributor gear observed to be approximately centered in timing window when magnet resistance minimal/centered, and points opened (via test box)

Magneto run on test bench



Memorandum

Utilized harness from accident airplane (red-colored Champion-brand leads)

The lead to the No. 2 cyl top plug was missing approx 1 inch of the flexible plastic cover about mid-length; the metallic shielding was intact/undamaged

Run was without P-lead noise filter (due to lack of cannon plug on supplied filter assy)

Run at idle (600 rpm) and up through 2,700 rpm; stabilized sustained (several minutes) runs at both 600 & 2,700 rpm

Sparked normally at all leads, no unusual sounds or other anomalies observed

Magneto disassembled, interior components examined

Pinion gear (metal drive for plastic distributor gear) installed upside down, results in ~1/2 distributor gear tooth (approx 2°) misalignment

Pinion gear has ~ 30 teeth

Distributor gear has ~80 teeth

No internal or external arc tracking noted

No significant internal corrosion noted

No damage or other abnormalities noted

Bearings and races lubricated, intact, no abnormalities noted

Left Magneto

TYPE: S4LN-21

PN 10-51360-37

SN 1003752



Memorandum

Magneto internal timing appeared basically accurate - red mark on distributor gear observed to be approximately centered in timing window when magnet resistance minimal/centered and points opened (via test box)

Magneto run on test bench

Utilized harness from accident airplane (red-colored Champion-brand leads)

Run was without P-lead noise filter (due to lack of cannon plug on supplied filter assy)

At idle (600 rpm) and up through 2,700 rpm; stabilized sustained runs (several minutes) at both 600 & 2,700 rpm

Sparked normally at all leads, no unusual sounds or other anomalies observed

Magneto disassembled, interior components examined

Pinion gear (metal drive for plastic distributor gear) installed upside down, results in ~1/2 distributor gear tooth (approx 2°) misalignment

Pinion gear has ~ 30 teeth

Distributor gear has ~80 teeth.

No internal or external arc tracking noted

No significant internal corrosion noted

No damage or other abnormalities noted

Bearings and races lubricated, intact, no abnormalities noted

TCM will forward the IIC (Patrick Jones) its detailed report and photography (still and motion).



National Transportation Safety Board

Memorandum

Both magnetos were packaged and returned to the TCM Bond Room for return shipment to Aircraft Recovery Services in Pearblossom, CA. A TCM release form was completed and signed by the undersigned.

A handwritten signature is shown, but the name is obscured by a black rectangular redaction box.

Michael Huhn

Air Safety Investigator